

Rounding Whole Numbers

Reporting Category Number and Number Sense

Topic Rounding whole numbers, 9,999 or less

Materials

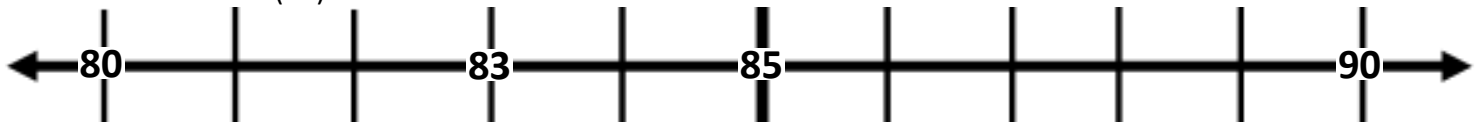
- Number Line Recording Sheet (attached)
- Newspaper ads
- Index cards

Vocabulary

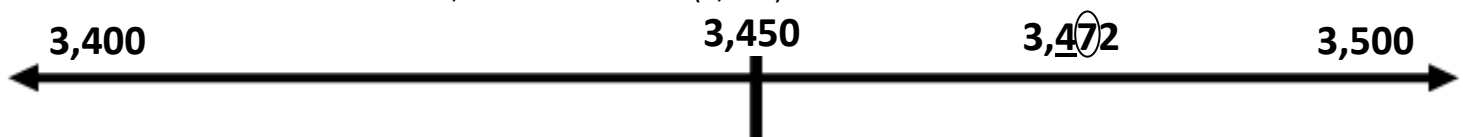
place value, numeral, rounding, estimation, digit

Student/Teacher Actions (what students and teachers should be doing to facilitate learning)

1. Explain and model rounding numbers by using a number line to determine the nearest ten, hundred, or thousand (depending on the place to which you want to round). For example, ask, "How can we use a number line to round 83 to the nearest ten? Which two tens is 83 'close to'?" (80 and 90) "What number is 'in between' these two tens?" (85) "Where does the number 83 go on the number line?" (between 80 and 85) "Which ten is 83 'closest to'?" (80)



2. Explain to students how rounding can be used as a strategy for estimating.
3. As students develop greater number sense and have more experience at rounding within larger numbers, transition into using a blank number line. For example, ask, "How can we use a blank number line to round 3,472 to the nearest hundred? Which hundreds is 3,472 'close to'?" (3,400 and 3,500) "What number is 'in between' these two hundreds?" (3,450) "Where does the number 3,472 go on the number line?" (between 3,450 and 3,500) "Which hundred is 3,472 'closest to'?" (3,500)



1. Distribute copies of the Number Line Recording Sheet, and have students use it to round five given numbers to various specified places. Explain and model another strategy for rounding: underlining the place value to which you want to round and then circling the numeral you need to consider to determine which ten, hundred, or thousand it is "closest to" (example above).

2. Give students a number, 9,999 or less, and a list of rounded numbers. Have them identify which rounded number correctly matches the given number rounded to a particular place (e.g., Given number: 3,472; Rounded numbers: 3,000, 3,400, 3,470; Which rounded number matches the given number rounded to the nearest ten?).

Assessment

- **Questions**
 - What is 3,384 rounded to the nearest hundred?
 - How did you determine the numbers to use on the number line to round a given number?
- **Journal/Writing Prompts**
 - In your own words, explain your strategy for rounding.
 - List some real-world situations in which you would want to use estimation, and explain why.
- **Other**
 - Have students use prices from the classified section of the newspaper (auto sales and real estate) to find numbers for rounding.
 - Have students estimate the cost of a meal from a menu by rounding the items purchased to the nearest ten and finding the sum of the rounded numbers.

Extensions and Connections (for all students)

- Provide nine cards for student pairs to write numbers between 100 and 1,000—one on each card. Have students shuffle the cards and place them in a pile. Each partner draws two cards, turns them face up, and estimates the sum. One partner keeps all cards whose estimated sum is less than 1,000, while the other partner keeps all cards whose estimated sum is greater than 1,000. The partner who has the most cards after all are drawn wins a point. The student who gets 10 points first wins the game.

Strategies for Differentiation

- Use a number line graphic organizer.
- Use color coding to help with rounding. For example, have students underline in one color the place value to which they are asked to round. Then, have students circle in another color the numeral they need to consider to determine whether they should round up or round down.
- Display a variety of numbers on the number line to challenge the students' number sense.
- Use colored markers to emphasize numbers when writing on a number line.
- Have students create a human number line to demonstrate how to round a number.
- Have students create a set of number cards with various place values underlined, indicating that the number is to be rounded to this place. Then, have students create a second set of number cards that are the rounded numbers matching the first set of cards. Have students play a matching game with the cards.

